CLAIMS

1. Intravascular stent characterized in that it comprises in its inner surface an enzyme capable of catabolizing cholesterol and lipids, or cells that have been genetically modified to produce said enzyme.

2. Intravascular stent according to claim 1, characterized in that said enzyme is chosen among lipoprotein lipase or the very low density lipoprotein (VLDL) receptor (VLDR).

3. Intravascular stent according to claim 1 or 2, characterized in that the material constituting the stent is chosen among different metallic alloys such as stainless steel, shape memory alloys such as Ni, Ti based alloys of similar composition.

4. Intravascular stent according to any of claims 1 to 4, characterized in that the inner surface is covered by an underlayer capable to bind to the enzyme or to the genetically modified cells as mentioned in claim 1, and in this last case to allow the said cells growth.

5. Intravascular stent according to claim 4, characterized in that the underlayer is an nitrogen rich layer such as polymers containing nitrogen and related chemical functionalities, and more particularly amorphous carbon nitrogen layer.

6. Intravascular stent according to claim 4 or 5, characterized in that the enzyme as defined in claim 1, is immobilized on the device surface by covalent binding with the polymer layer.

7. Intravascular stent according to claim 4 or 5, characterized in that the genetically modified cells as defined in claim 1, are bound to the layer, if necessary via a fibronectine coating.

8. Intravascular stent according to any one of claims 1 to 5 or 7, characterized in that the genetically modified cells are chosen among endothelial cells.

9. Intravascular stent according to claim 8, characterized in that the genetically modified cells are chosen among human normal umbilical vein endothelial cells, or human autologous immortalized microvascular cells.

10. Intravascular stent according to claim 8 or 9, characterized in that the endothelial cells are transformed with an adeno-associated viral vector (AAV) containing the sequence encoding the enzyme as defined in claim1 or 2.

11. Use of an intravascular stent according to any of claims 1 to 10, in the frame of the treatment or prevention of obstructive artheriosclerotic lesions in the coronary and peripheral blood vessels, or prevention of restenosis in intra coronaric stents.